

Application Serial No. 09/684,383
Supplemental Amendment dated 9 February 2005

REMARKS

The specification has been amended to update the continuity data for the present application. Specifically, the current status of Serial No. 08/679,048 and Serial No. 08/482,577 have been added. In addition, reference to the continuity data for Serial No. 08/482,577 as shown on U.S. Patent No. 5,807,713 has been added, i.e., reference to Serial No. 08/289,222 and its resulting U.S. Patent No. 6,102,760 has been added. In addition, the continuity data for Serial No. 08/289,222 as shown on U.S. Patent Nos. 6,102,760 and 5,807,713 has been added, i.e., reference to a continuation-in-part application of PCT/EP93/00350. It is submitted that this amendment does not constitute new matter, and its entry is requested.

The undersigned would like to thank the Examiner for the courtesies extended during the interview held on 8 February 2005. During the interview, support for the amendments to the claims that were made in the Amendment filed on 18 January 2005 were discussed. This support is summarized below.

Applicants noted that claim 25 had been amended in the Amendment filed 18 January 2005 to delete the mature protein that starts with amino acid 237 and ends with amino acid 352 of SEQ ID NO:2 because this peptide has been claimed in U.S. Patent No. 6,120,760. In that Amendment, Applicants utilized the language that the mature protein "starts with any one of amino acids 217-236 and 238-240 and ends with amino acid 352 of SEQ ID NO:2."

Support for a mature protein that starts with any one of amino acid 217-236 and 238-240 and ends with amino acid 352 of SEQ ID NO:2, can be found at page 4, last line - page 5, line 2 and page 5, lines 13-17. The relevant portions of this part of the specification state:

The start of the mature protein is preferably in the region of amino acids 217-240, particularly preferably at amino acid 236 or 237 and most preferably at amino acid 237.

...

The mature protein begins in the region of amino acids 217-240 in analogy with the human MP121 of SEQ ID NO:2. It is most preferred when the mature protein starts at amino acid 237 ... In the case of MP121 from the mouse it is

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also conceivable that the beginning of the mature protein is at least sometimes amino acid 236.

This description clearly supports the claimed mature proteins that start with any one of amino acids 217-236 and 238-240 and ends with amino acid 352 of SEQ ID NO:2. This description also supports the claimed mature proteins that start with any one of amino acids 217-240 and ends with amino acid 352 of SEQ ID NO:4. Thus, Applicants submit that the specification fully supports the mature proteins specified in claim 25 as amended on 18 January 2005.

Applicants further note that claim 25 had been amended in the Amendment filed 18 January 2005 to include the language from claim 29 that had read "a mature protein which comprises at least the region of seven cysteine residues, said region comprising amino acid residues 247-352 of SEQ ID NO:2, and a mature protein which comprises at least the region of seven cysteine residues, said region comprising amino acid residues 247-352 of SEQ ID NO:4."

Applicants note that this language is fully supported by the specification as described in the Amendment dated 25 August 2004. Specifically, the specification in the paragraph bridging pages 6-7 as filed states:

Within the scope of the present invention the term "mature protein" also encompasses functional partial regions of the complete protein which exhibit essentially the same biological activity and preferably those partial regions which include at least the region of the seven cysteines that are conserved in the TGF- β family. In this case it is in particular possible that the N-terminus of the mature protein is slightly modified i.e. deviates from the sequences shown in SEQ ID NO.2 and 4. In this connection additional amino acids, which do not influence the functionality of the protein, may be present or amino acids may be absent provided that in this case the functionality is also not impaired. However, it is preferred that the human protein and the mouse protein contain all amino acids starting with amino acid 237 of the amino acid sequence shown in SEQ ID NO.2 and SEQ ID NO.4. It is already known from other family members of the TGF- β family that the attachment of additional amino acids to the N-terminus of the mature protein does not influence the activity wherein inter alia 6 additional histidines were attached to the N-terminus.

This language provides support for a protein that comprises at least the region of seven cysteine residues of SEQ ID NOs:2 and 4.

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The recited portion of the specification clearly discloses variation in the N-terminus of the protein. Furthermore, Figure 1 shows a comparison of the amino acid sequence of human MP121 with some other members of the TGF- β family "starting at the first of the seven conserved cysteine residues." See, page 5, last paragraph of the specification. The amino acid sequence for human MP121 in Figure 1 comprises residues 247-352. Thus, the specification in conjunction with Figure 1 fully supports a protein comprising residues 247-352. In view of these disclosures, Applicants submit that the specification fully supports a protein comprising amino acid residues 247-352 of SEQ ID NO:2 that comprises at least the region of seven cysteine residues of this protein.

Furthermore, the specification shows that MP121 for human and mouse are very similar (seen in comparing the sequences in SEQ ID NOs:2 and 4). The specification also discusses various aspects of the mouse protein "in analogy to the human protein." See page 5, second paragraph which discusses the protein of SEQ ID NO:4. Since mouse MP121 and human MP121 are very similar, everything regarding the mouse DNA and/or amino acid sequences can be derived accordingly from human MP121 as noted on page 5 of the specification. Thus, Applicants submit that the specification fully supports the position of the first conserved cysteine for mouse MP121. In view of these disclosures, Applicants submit that the specification contains a written description of a protein comprising amino acid residues 247-352 of SEQ ID NO:4 that comprises at least the region of seven cysteine residues of this protein.

Thus, Applicants submit that the specification fully supports the amendments previously made to claim 25.

As Applicants noted in the Amendment filed 18 January 2005, claim 44 had been added to claim the subject matter of previously presented claim 27 in view of the amendment to claim 27. Support for mature proteins starting with any one of amino acids 217-236 and 238-240 and ending with amino acid 352 of SEQ ID NO:2, as well as the mature proteins starting with any one of amino acids 217-240 and ending with amino acid 352 of SEQ ID NO:4, in claim 44 is as discussed above with respect to claim 25. Similarly support for the mature protein comprising the seven conserved

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cysteine residues in claim 44 is as shown above for claim 25. Thus, the specification fully supports claim 44.

In view of the above amendments and remarks, as well as those made in the previously filed Amendments, particularly the Amendments filed 18 January 2005 and 25 August 2004, it is believed that the claims satisfy the requirements of the patent statutes and are patentable over the prior art. Reconsideration of the instant application and early notice of allowance are requested. The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

Respectfully submitted,

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